BÖLÜM 4

YEREL ZEMİN ETKİLERİ

Muammer TÜN[1]

4.1. GİRİŞ

Faylanma hareketi nedeniyle kaynaktan yayılan ve yer yüzeyi boyunca ilerleyen sismik dalgalar içerisinden geçtikleri ortamın yapısal ve fiziksel özelliklerinden etkilenirler. Bu etkilenme biçiminin ortaya konulması depreme dayanıklı yerleşim ve kent planlamalarında yerleşime uygunluk analizleri için oldukça önemlidir. Özellikle yerleşime açılan veya yeni yerleşime açılması planlanan sedimanter havzalarda deprem yer tepkisini belirmek için jeofizik ölçme yöntemleri kullanılır. Tek istasyon ve çoklu istasyon dizilimi ile mikrotremor ölçümleri uygulama kolaylığı, hızlı ve ekonomik olması nedenleriyle sismik mikrobölgeleme çalışmaları kapsamında yürütülen mühendislik jeofiziği araştırmalarında sıklıkla kullanılmaktadır. Bu bölümde, mikrotremor ölçümlerinin mikrobölgeleme çalışmalarında sedimanter havza etkilerinin araştırılmasındaki kullanım alanlarının ortaya konulması amaçlanmıştır. Sonuç olarak, Eskişehir havzası örneğinde yapılan mikrotremor ölçümlerinden elde edilen yarım graben havza modeli belirlenmiştir.

4.2. DEPREM TEHLİKESİ VE YEREL ZEMİN ETKİLERİ

Sedimanter havzalarda, saha etkisi özellikle havza kenarlarında yüksek genlikli yüzey dalgalarının oluşmasına neden olur. Sedimanter tabakanın kalınlığı, de-

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Düşük frekanslı alanları çevreleyen yüksek frekanslı ortam, mercek etkisi ile deprem yer hareketi büyütmesine neden olabilecek anakaya sınır geometrisine sahiptir. Ayrıca elde edilen hâkim frekans değerleri ile bina frekanslarının ilişkisi değerlendirilerek rezonans tehlikesi kaynaklı gelişebilecek risklerin özellikle sakınım planlamaları açısından ortaya konulması önerilir.

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